

INDEX TO VOLUME XIV

GENERAL ALPHABETICAL INDEX

Entries from the Synopsis of Periodical Literature are indicated by S. (Synopsis); from the Analysis of Current Electricchemical, Chemical and Metallurgical United States Patents by P. (Patents); from the Digest of Electrochemical United States Patents Prior to July, 1902, by D. (Digest).

A

Abbé, Paul O. Mixer.....	667
Abrasives	510
Academic millinery.....	557
Accidents at metallurgical works during 1913 and 1914.....	53, 562
Accidents. Two instructive accidents from chemical engineering practice. Rupert.....	66
Acetic acid. By electrolysis of acetylene. Hanson and Weindel. (P.).....	101
Acetylene. Electrolysis of. Hanson and Weindel. (P.).....	289
Acheson Graphite Co.....	
Acids: See under Sulphuric, nitric, etc.	
Acid proof iron.....	551
Acid tank car. Accident with. Rupert.....	66
Aesthetics and science.....	200
Etna Chemical Co.....	269, 613
Etna Explosives Co.....	269
Air: Fixation of nitrogen from air. See Nitrogen Fixation.....	
Air. Liquid. Production of. Marchis. 187,	312
Air Reduction Co.....	715
Air separation. Wiard.....	92
Akins classifier.....	92
Alcohol. Extension of time for awards by Russia.....	345
Alcohol. From waste sulphite liquor. Alexander, D. B. W.....	669
Alkali deposits of California and Oregon. Alkaline storage battery, Use of cerium. Edison. (P.).....	282, 359
Allanite, Radio-activity of. Pratt.....	484
ALLOYS:	
—Aluminium magnesium. Naylor and Hutton. (P.).....	546
—Copper alloy, Pease. (P.).....	222
—Ductile alloys of tungsten, thorium and platinum. Kaiser. (P.).....	283
—Electric-resistor material. Hunter. (P.).....	222
—Gold alloys, substitute for platinum and palladium alloys. Richter. (P.).....	283
—Iron and hydrogen for anodes and cathodes. Gesner. (D.).....	232
—Lead and alkaline earths. Frary and Temple. (P.).....	10f
—Silver-palladium as platinum substitutes. Heyl. (P.).....	164
ALUMINIUM:	
—Auto engine castings.....	113
—Magnesium alloys. Naylor and Hutton. (P.).....	546
—Melting of. Mellen. (P.).....	221
—New Japanese plant.....	402
—Nitride. Electric furnace production. Coutaerne. (P.).....	100
—Process of producing alumina. Schwahn. (P.).....	545
—Production in 1915.....	96
—Production from clay and other silicates. Mellen. (P.).....	221
—Proposed Norwegian plant.....	553
—Special coating	459
—Statistics	113, 510
—Treating aluminium scrap. Lawrie. (P.).....	101
—Welding sheets in automobile work. Aluminum Company of America.....	548, 506
Amalgamation. Central mill of North Star Mines Co. Palmer.....	35
—New dry amalgamator. Palmer.....	715
American Blower Co.....	172
American chemical industry in 1915.....	1

American Chemical Society, —New York Section: —Nichols medal presentation.....	300
—University and industry.....	413
—Program of meeting.....	630
—Last meeting of season 1915-1916, Urbana meeting and exhibition, —Report	678, 411, 485
American Coal Products Company.....	289
American Coal Refining Co.....	416
American Cyanamid Co.....	172, 418
American Electrochemical Society: —New York Section.....	130, 180, 465
—Electrochemical war supplies... Flootation	259, 569
—Pittsburgh Section	290
—Washington general meeting, 357, 410, 473	
American Gas & Electric Co.....	110
American Institute of Chemical Engineers: —Baltimore meeting.....	14, 70, 159
—Announcement of Cleveland meeting. Program of Cleveland meeting.....	464, 623
American Institute of Electrical Engineers —Corrosion	268, 300, 469
—Waterpower conference	
American Institute of Mining Engineers: —112th meeting at New York, 11, 130, 173, 245	
—Resolutions on Chihuahua murder....	130
—Arizona Section	331
—Montana Section	332
—New York Section.....	358, 465
—Nevada Section. Announcement of installation	554
—St. Louis Section—Annual meeting..	668
American Iron and Steel Institute.....	465
American Metal Products Co.....	629, 172
American Paper and Pulp Association— Annual meeting	130
American Products Co.....	356, 554
American Smelting & Refining Co. 22, 174, 524, 553	
—Election of directors.....	
American Society of Mechanical Engineers—Spring meeting at New Orleans	375
American Society for Testing Materials.....	347
American Steam Pump Co.....	233
American Steel & Wire Co. starts by product coke plant.....	554
American Synthetic Dyes, Inc.....	459
American Zinc, Lead & Smelting Co.....	416
AMMONIA:	
—From coal gas. Wagner.....	495
—From nitric acid. Landis.....	513
—Nitric acid from, by Ostwald process. Schüphaus	425
—Production from cyanamid. Landis. Solubility of naphthalene. Hilpert. (S.)	87, 709
—Synthetic	395
—Tungsten as catalyst. Bosch. (P.)	712
Ammonium sulphate manufacture. Use of nitre cake.....	564
Anacunda Copper Co.....	172
—Electrolytic zinc plant.....	132
—Flotation. Laist and Wiggin.....	329
—Progress	416
ANALYSIS:	
—Carbon dioxide. Pocket indicator..	402
—Chain vernier analytical balance...	230
—Copper in copper-manganese. Electrolytic. Koeppling	441
—Copper. Some sources of error in iodometric determination. Smith	379
—Rubber goods. King.....	581
—Testing volumetric apparatus.....	580
—Zinc. Proposed quick method for retort residues or electric furnace slags. Johnson	395
—Zinc retort-residue	200
Aniline Dyes: See Dyestuffs.	
Annealing of metals. Thompson.....	679
Anthony, Richard A.....	147
ANTIMONY:	
—Behavior of stibnite in an oxidizing roast. Hofman and Blatchford. (S.)	163
—Determination in roasted stibnite. Hall and Blatchford. (S.)	164
—New eastern smelting plant.....	613
—Production in 1915	172
—Production in Hunan Province, South China. Wheeler. (S.)	538
Antimonial gold ore treatment. (S.)	54
Apollo Electric Steel Co.....	233
Arizona copper strike ended.....	124, 177
Arizona Copper Company. Fire loss.....	14
Armstrong Cork & Insulation Co.....	113, 347, 551
Arsenic. Production in 1915.....	114
Asbestos. Use of grading.....	578
Asbestos. Production	718
Asbestos Protected Metal Co.....	403
Asphalt and asphalt products. Pierce.....	519
Asphalt primer	215
Assaying. Distribution of silver between metallic lead and litharge-containing slags. Dudley.....	636
—Effect of litharge. Dudley.....	695
Assaying. Geological Survey cannot make assays	23
Atwater, C. G.	403

B

BACHARACH Industrial Instrument Co.....	402
Bacon, Raymond F.....	553
Baekeland, L. H.....	458
Bailey Meter Co.....	172, 456, 667
Bakelite. Early history.....	149
Baker cooler	166
Balance	717
Ball-mill. Development of	285
Ball mills. Need of data	292
Banker. The chemist and	174
Barber Asphalt Paving Co.'s laboratory organization	519, 580
Barium. Industry since the war. Toch.	47
Barium. Industry in United States. Toch.	159
Barium. Old barytes plant re-opened....	399
Barrett Company	289
Baruch, Edgar	115
Barytes. Use of grading	578
Battery. Production	718
Battery. Cerium used in alkaline battery. Edison. (P.)	283
Bausch & Lomb Optical Co.....	289
Bauxite statistics	113
Bavarian porcelain	233
Becker chain balance	230
Belgium. Chemical industries of. Hubert	376
Belts. Nomographic charts for calculations. Haylett	8
Benson, H. K.	346
BENZOL:	
—Brier Hill Steel Co.....	347
—From coal gas.....	496
—From petroleum. Rittman process	269
—Koppers Co. erections of by-product coke ovens	347
—Present rate of production	601
—Production in 1915	172
—Production from low-grade coal tar oils. Rittman and Egloff.	15, 289
Benzol Products Company	716
Bignell, L. G. E.	716

INDEX TO VOLUME XIV

GENERAL ALPHABETICAL INDEX

Entries from the Synopsis of Periodical Literature are indicated by S. (Synopsis); from the Analysis of Current Electricchemical, Chemical and Metallurgical United States Patents by P. (Patents); from the Digest of Electrochemical United States Patents Prior to July, 1902, by D. (Digest).

A

Abbé, Paul O. Mixer.....	667
Abrasives	510
Academic millinery.....	557
Accidents at metallurgical works during 1913 and 1914.....	53, 562
Accidents. Two instructive accidents from chemical engineering practice. Rupert.....	66
Acetic acid. By electrolysis of acetylene. Hanson and Weindel. (P.).....	101
Acetylene. Electrolysis of. Hanson and Weindel. (P.).....	289
Acheson Graphite Co.....	
Acids: See under Sulphuric, nitric, etc.	
Acid proof iron.....	551
Acid tank car. Accident with. Rupert.....	66
Aesthetics and science.....	200
Etna Chemical Co.....	269, 613
Etna Explosives Co.....	269
Air: Fixation of nitrogen from air. See Nitrogen Fixation.....	
Air. Liquid. Production of. Marchis. 187,	312
Air Reduction Co.....	715
Air separation. Wiard.....	92
Akins classifier.....	92
Alcohol. Extension of time for awards by Russia.....	345
Alcohol. From waste sulphite liquor. Alexander, D. B. W.....	669
Alkali deposits of California and Oregon. Alkaline storage battery. Use of cerium. Edison. (P.).....	282, 359
Allanite. Radio-activity of. Pratt.....	484
ALLOYS:	
—Aluminium magnesium. Naylor and Hutton. (P.).....	546
—Copper alloy. Pease. (P.).....	222
—Ductile alloys of tungsten, thorium and platinum. Kaiser. (P.).....	283
—Electric-resistor material. Hunter. (P.).....	222
—Gold alloys, substitute for platinum and palladium alloys. Richter. (P.).....	283
—Iron and hydrogen for anodes and cathodes. Gesner. (D.).....	232
—Lead and alkaline earths. Frary and Temple. (P.).....	10f
—Silver-palladium as platinum substitutes. Heyl. (P.).....	164
ALUMINIUM:	
—Auto engine castings.....	113
—Magnesium alloys. Naylor and Hutton. (P.).....	546
—Melting of. Mellen. (P.).....	221
—New Japanese plant.....	402
—Nitride. Electric furnace production. Coutaerne. (P.).....	100
—Process of producing alumina. Schwahn. (P.).....	545
—Production in 1915.....	96
—Production from clay and other silicates. Mellen. (P.).....	221
—Proposed Norwegian plant.....	553
—Special coating	459
—Statistics	113, 510
—Treating aluminium scrap. Lawrie. (P.).....	101
—Welding sheets in automobile work. Aluminum Company of America.....	548, 506
Amalgamation. Central mill of North Star Mines Co. Palmer.....	35
—New dry amalgamator. Palmer.....	715
American Blower Co.....	172
American chemical industry in 1915.....	1

American Chemical Society, —New York Section: —Nichols medal presentation.....	300
—University and industry.....	413
—Program of meeting.....	630
—Last meeting of season 1915-1916, Urbana meeting and exhibition, —Report	678, 411, 485
American Coal Products Company.....	289
American Coal Refining Co.....	416
American Cyanamid Co.....	172, 418
American Electrochemical Society: —New York Section.....	130, 180, 465
—Electrochemical war supplies... Flootation	259, 569
—Pittsburgh Section	290
—Washington general meeting, 357, 410, 473	
American Gas & Electric Co.....	110
American Institute of Chemical Engineers: —Baltimore meeting.....	14, 70, 159
—Announcement of Cleveland meeting. Program of Cleveland meeting.....	464, 623
American Institute of Electrical Engineers —Corrosion	268, 300, 469
—Waterpower conference	
American Institute of Mining Engineers: —112th meeting at New York, 11, 130, 173, 245	
—Resolutions on Chihuahua murder....	130
—Arizona Section	331
—Montana Section	332
—New York Section.....	358, 465
—Nevada Section. Announcement of installation	554
—St. Louis Section—Annual meeting..	668
American Iron and Steel Institute.....	465
American Metal Products Co.....	629, 172
American Paper and Pulp Association— Annual meeting	130
American Products Co.....	356, 554
American Smelting & Refining Co. 22, 174, 524, 553	
—Election of directors.....	
American Society of Mechanical Engineers—Spring meeting at New Orleans	375
American Society for Testing Materials.....	347
American Steam Pump Co.....	233
American Steel & Wire Co. starts by product coke plant.....	554
American Synthetic Dyes, Inc.....	459
American Zinc, Lead & Smelting Co.....	416
AMMONIA:	
—From coal gas. Wagner.....	495
—From nitric acid. Landis.....	513
—Nitric acid from, by Ostwald process. Schüphaus	425
—Production from cyanamid. Landis. Solubility of naphthalene. Hilpert. (S.)	87, 709
—Synthetic	395
—Tungsten as catalyst. Bosch. (P.)	712
Ammonium sulphate manufacture. Use of nitre cake.....	564
Anacunda Copper Co.....	172
—Electrolytic zinc plant.....	132
—Flotation. Laist and Wiggin.....	329
—Progress	416
ANALYSIS:	
—Carbon dioxide. Pocket indicator..	402
—Chain vernier analytical balance...	230
—Copper in copper-manganese. Electrolytic. Koeppling	441
—Copper. Some sources of error in iodometric determination. Smith	379
—Rubber goods. King.....	581
—Testing volumetric apparatus.....	580
—Zinc. Proposed quick method for retort residues or electric furnace slags. Johnson	395
—Zinc retort-residue	200
Aniline Dyes: See Dyestuffs.	
Annealing of metals. Thompson.....	679
Anthony, Richard A.....	147
ANTIMONY:	
—Behavior of stibnite in an oxidizing roast. Hofman and Blatchford. (S.)	163
—Determination in roasted stibnite. Hall and Blatchford. (S.)	164
—New eastern smelting plant.....	613
—Production in 1915	172
—Production in Hunan Province, South China. Wheeler. (S.)	538
Antimonial gold ore treatment. (S.)	54
Apollo Electric Steel Co.....	233
Arizona copper strike ended.....	124, 177
Arizona Copper Company. Fire loss.....	14
Armstrong Cork & Insulation Co.....	113, 347, 551
Arsenic. Production in 1915.....	114
Asbestos. Use of grading.....	578
Asbestos. Production	718
Asbestos Protected Metal Co.....	403
Asphalt and asphalt products. Pierce.....	519
Asphalt primer	215
Assaying. Distribution of silver between metallic lead and litharge-containing slags. Dudley.....	636
—Effect of litharge. Dudley.....	695
Assaying. Geological Survey cannot make assays	23
Atwater, C. G.	403

B

BACHARACH Industrial Instrument Co.....	402
Bacon, Raymond F.....	553
Baekeland, L. H.....	458
Bailey Meter Co.....	172, 456, 667
Bakelite. Early history.....	149
Baker cooler	166
Balance	717
Ball-mill. Development of	285
Ball mills. Need of data	292
Banker. The chemist and	174
Barber Asphalt Paving Co.'s laboratory organization	519, 580
Barium. Industry since the war. Toch.	47
Barium. Industry in United States. Toch.	159
Barium. Old barytes plant re-opened....	399
Barrett Company	289
Baruch, Edgar	115
Barytes. Use of grading	578
Battery. Production	718
Battery. Cerium used in alkaline battery. Edison. (P.)	283
Bausch & Lomb Optical Co.....	289
Bauxite statistics	113
Bavarian porcelain	233
Becker chain balance	230
Belgium. Chemical industries of. Hubert	376
Belts. Nomographic charts for calculations. Haylett	8
Benson, H. K.	346
BENZOL:	
—Brier Hill Steel Co.....	347
—From coal gas.....	496
—From petroleum. Rittman process	269
—Koppers Co. erections of by-product coke ovens	347
—Present rate of production	601
—Production in 1915	172
—Production from low-grade coal tar oils. Rittman and Egloff.	15, 289
Benzol Products Company	716
Bignell, L. G. E.	716

INDEX.

CALIFORNIA: (Continued.)			
—University of. New building construction	460	COAL: (Continued.)	
Calorimeters. Standardization	45	—Mining in Illinois.....	114
Calumet & Arizona Mining Co.	624	—Refining.....	407
Camden Coke Co. Coke ovens and benzol	347	Coal-tar products:	
Camp Bird, Ltd.	242	—Development in United States. Jordan	144
Canada:		—Production rate.....	612
—Clay products, cement and lime.....	347	—Statistics	496
—Department of Mines in 1914.....	348	Cobalt. Separation from ores. Mc-Kenna, (P.).....	712
—Mineral production in 1915.....	344,	Cobalt. Use in thermocouples. Kowalek	477
Mines Department laboratories.....	518	COKE:	
Mining Institute. Annual session.146,	177	—By-product plants	553,
Mining Institute. Ottawa meeting..	323	—By-product coke oven plant of Indiana	554
Niagara Falls and industrial Canada.	351	—Coke & Gas Co.	32
—Research Bureau	669	—Efficiency in blast furnace operation.	256
Canning. Use of grading.....	579	Burman	137,
Carbon articles and electrodes. Cemented.	101	—From coal-gas manufacture. Wagner.	493
Brown, (P.).....	402	Ovens as gas producers.....	407
Carbon dioxide pocket indicator.....	554	—Present status of American by-product industry. Clarke...502,	601
Carcolite Chemical Co. to rebuild plant.	51	—Reducing agent in electric furnace.	
Carnotite. Radium from. Farsons.		Gosrow	691
Carnotite ore. Separation of vanadium		—Sulphur content	710
from crude sodium uranate.		Cole, A. A.	234
Barker and Schlundt.....	18	College of the City of New York. Special lectures	250
Carrier Engineering Corporation.....	717	Colley, B. T.	458
Castner-Kellner Alkali Co.....	669	Colloids. Ayres	500
Cathodes cylindrical. Georges, (D.)...	404	Colon. Manganese ore from.....	347
—Digest of patents relating to	348	Colorado. Industrial conditions improved	241
—Preparation for easy removal of de-	404	Colorado School of Mines. Co-operation with Bureau of Mines.....	241
posits. Becker, (D.).....		Colorado Scientific Society investigates	
—Woven wire cloth as used in Har-		Everson patents	13
greaves-Bird cell. Hargreaves.	458	Columbia River power	408
(D)		Columbia University. Proposed engineer-	242
Caustic soda. See also Sodium chloride		ing research	242
electrolysis.		Combustion Engineering Corporation....	612
Caustic soda. Pacific coast enters the field.		Complex ore. What is the true value?	
Great Western Electrochemical Co.		Plumb	8
Caustic soda from Western alkali lakes.	177	CONCENTRATION. (See also Flotation.)	
Celite	359	—Central mill of North Star Mines Co.	
Cell. Electrolytic. See also under Caustic	228	Palmer	35
alkali and various other products.		—Classifying. Dorr	293
Cell. Electrolytic. Peyrusson, (D.)...	232	—Combined hydraulic and mechanical classifier. Sohnlein, (S.).....	538
Cellulose. From kelp. Glaze.....	355	—Glass surfaces for ore-dressing. Tre-	
Cement. High temperature for furnaces.	714	wartha-James, (S.).....	598
Quigley	197	—Grading industries. Wiard.	
Cements. Sadler	459	91, 191, 383, 529,	575
Central Scientific Co.		—Mass screening with flat screens.	
Centrifugal force applied to suspensions		Wiard	383
and emulsions. Ayres	500	—Molybdenite. Andrews, (S.).....	454
Centrifugal pump. Adjustable pressure.	283	—Probability and chance in screening.	
Cerium. Use in alkaline storage battery.	289	Herz	297
Edison, (P.).....		—Relation of clay to ore-dressing and	
Chain Belt Company.....	290	cyanidation	245
Chain vernier analytical balance.	230	Conductors for supplying a number of	
Chalmers & Williams Co.....	113,	electrolytic cells. Leith, (D.)..	170
Chamber of Mines and Oil of Los Angeles	233	Congress. Defeat of Lodge dyestuff tariff	
Chart. Nomographic. Bailey.	584	amendment	407
Chase, Chas. A.....	295	Coniaigis Mines, Ltd.	243
Chattanooga. Industrial developments.	670	Conifer leaf oil industry. Schorger.	513
Chemelectric Company	401	Connerville Blower Co. Boston type	
Chemical Construction Co.	167	blower	58
Chemical Refinery, Ltd.	668	Consolidated Arizona Smelting Co.	624
Chemist and the banker.	347	Consolidated Mining & Smelting Co. of	
Chemist on the board. Hendrick.	174	Canada, Ltd.	613
Chemists' Club. Announcement of annual	238	Contact potentials. Relation between and	
meeting	554	electrochemical action. Langmuir.	481
Chemists' Club scholarships.....	568	Continuous operation. Value of in ore-	
Chemistry. Pure and applied.....	317	testing	292
Chicago Pneumatic Tool Co.	613	Controllers. Rope operated for small	
Chile Exploration Co.	278	cranes and hoists	290
Chile. Nitrate industry. Cuevas.	426	Convention, Northwest Mining.	347
Chlorates	512	Cooler. Baker type	166
Chlorates and perchlorates. Process of		Cooling roasted ore. Hubbard, (P.).....	165
manufacture. Gibbs, (P.).....	540	Co-operation in industrial research. Ad-	
Chloridizing complex ores. Titus and	451	dicks and Lidbury	476
Barenseher, (P.).....		COPPER:	
Chlorine:		—Allotropy of. Burgess and Kellberg.	
—Apparatus for conducting away from	169	(S.)	209
cell. Waite, (D.).....		—Arizona production	114
—Diaphragm for chloride electrolysis.	101	—Arizona strike ended	124
Clemm, (P.).....	215	—Braden Copper Co. practice. Douglass	
—Liquid. Ornstein	311	and Colley, (S.).....	279
—Uses of chlorine	613	—Brittleness of annealed copper. Ruder.	
Chromic iron ore production.	14	—Continuous operation of engine driven	
Churchill Milling Company	402	generators at Raritan Copper	
Citizens Gas Co.	346	Works	244
Clapp, F. G.	533	—Cost accounting in the construction	
Clarke, T. C.	670	and operation of a copper smelter.	
Clarke, W. H. C.	538	Thum	660
Classifier. Combined hydraulic and me-	95	—Deposition in electrolyzing baths.	487
chanical. Sohnlein, (S.).....	295	Blum, Haller, Rawdon and Lasier.	553
Classifying. Wiard	715	—Electric smelting in New Foundland.	
Classifying. Dorr	221	—Electrolysis of copper leaching solu-	
Claude process of liquefying air.187, 312,	245	tions. Greenawalt, (P.).....	609
Clay. Aluminum from. Mellen, (P.)...	555	—Electrolysis with revolving electrodes.	
Clay. Relation to ore-dressing and	459	Greenawalt, (P.).....	103
cyanidation. Allen	115	—Electrolytic determination in copper	
Cleaning metals. (D.).....	245	manganese	441
Clemens, George S.	555	—Electrolytic refining. Ca^{+} as starting	
Clevenger, G. H.	459	sheets. Guggenheim, (P.).....	165
Coal:		—Electroplating. Babcock and Hag-	
—Chemistry in the coal mining industry.	440	maier, (P.).....	665
Chance		—Feeding blast furnaces in pyritic	
—Coal-gas residuals and their applica-	493	smelting. Sticht, (S.).....	537
tion. Wagner		—Grades of coal permissible for rever-	
—Efficiency in blast furnace operation.	256	atory smelting. Kuzell, (S.).....	338
Burman	137,		
—Grades permissible for reverberatory			
smelting. Kuzell, (S.).....	338		
—In United States	14		

C

CADMIUM. Removal from zinc ores.
Rigg, (P)
Calcium carbide
Calcium carbide. New American plant in Norway
Caldwell & Son Co., H. W.
California:
—Mineral resources
—University of. Chemical engineering course

INDEX.

COPPER: (Continued.)	
Hydrometallurgy—	
Ajo leaching tests. Morse and Tolman	332
Aluminum sulphate solutions as leaching agents. Erdős. (P.)	510
Continuous leaching apparatus. Godbe. (P.)	103
Goodrich. (P.)	341
Leaching at Chuquicamata, Chile. Rose. (S.)	278
Leaching process. Greenawalt. (P.)	610
Precipitating apparatus for copper sulphate solutions. Irving. (P.)	610
Melting and refining in basic lined furnace. Addicks and Brower. (P.)	103
Metallurgy of in 1915	4
Present conditions and outlook in the West. Ricketts	668
Production in 1915	623
Pyritic smelting. The role of sulphur. Sticht. (S.)	223
Rankin nitric acid process. Rankin. (P.)	103
Recovery from tailings. Atwater. (P.)	452
Smelting:	
Consolidated Arizona Smelting Co.	33
Pyrite smelting at Mt. Lyell. Sticht. (S.)	54
Finely divided ores. Klepinger, Krejci and Kuzell. (P.)	397
Starting sheets for electrolytic refining. Elliott and Keshner (D.)	458
McCoy. (D.)	458
Vat for leaching or electrolysis. Stout. (P.)	610
Welding copper with steel or iron. "Copperweld"	552
Copper Clad Steel Co.	552
Corkboard insulation	347
Cornell University's chemical department burned	290
Corrosion and the engineer. Walker. Condenser tubes. Institute of Metals report	382
Discussion	390
Faraday Society meeting	412
Influence of alternating current on. McCollum and Ashburn	389
Meeting of A. I. E. E. and A. E. S. Cost accounting	300
Cost accounting in the construction and operation of a copper smelter. Thum	462
Cottrell, F. G.	660
Coward, Herbert	170
Coke shaking grizzly	386
Crane. Misjudging the capacity. Rupert Crucibles. Graphite. Present situation. Crucibles. Proper use	66
Crushing and grinding:	
Ball-mill development	285
Dumb bell tube mill. Robertson. (S.)	224
Grading industries. Wiard. 91, 191, 383, 529, 575	
Need of ball-milling data	292
Synons disc crusher	230
Cunningham, F. W.	346
Cutler-Hammer Clutch Co., lifting magnets Cut-out. S & H special	229
Cut-out. S & H special	167
Cyanamid:	
Landis	513
Norwegian power used	513
Production of ammonia from. Landis Cyanide process. See Gold and silver. Cyanides or cyanamide. Electric furnace. Bucher. (P.)	87
Cyanides. Manufacture. Acker. (P.)	57
Cyanides. Manufacture. Ashcroft. (P.)	57
Cyanogen. From coal gas manufacture.	494
D	
DALY-JUDGE Mining Co.	624
To erect electrolytic zinc plant.	343
Davis, W. Walley.	403
Davison Chemical Corporation.	113
Day, Harry L.	403
Dayton Industrial Exposition.	113
Decks for round tables	172
Decolorizing saccharine liquids, water, etc., by electrolysis. Pridham. (D.)	231
Defence and water power. Whitney.	472
Density. Standard tables	554
Depolarization by electric waves. Bancroft	480
Deschutes Hydro-Electric Process Co.	717
Diamond Match Co.	357
Diaphragm. Compound. Clemm. (P.)	101
Dies for making imitations of straw hats. Kendall. (D.)	348
Diesel engines. Metallurgy of pistons. Ferguson	336
Digest of electrochemical U. S. patents, Distillation. Fatty substances. Kuess. (D)	555
Dodd, A. W.	231
Dodge, James M.	61
Dochler Die Casting Co.	613
Donora zinc plant of American Steel & Wire Co.	113
Dorr Company. History	454
Dorr classifier	92
Douglass, A. M.	234
Dow, Herbert H.	403
Drainage conference	347
Drucker, A. E.	614
Drying. Apparatus. Benjamin. (P.)	545
Du Pont Powder Co. nitrogen project.	418
Durex Chemical Works.	47
Duron Castings Co.	113
Dushman, S.	170
Dwight & Lloyd Metallurgical Co. Furnace. Meyer. (P.)	282
Dyck, George E.	459
Dyestuffs:	
Congress and the dyestuff situation. Defeat of Lodge tariff amendment in Congress	294
From materials native to Latin-American countries. Sadlier	407
Hearing on tariff	484
Japanese trust	125
Necessity for an American industry. New plant	180
Present status of American by-product coke-oven industry. Clarke	233
Statistics. Wagner	496
Tariff measure. National. Dynamite. Wood flour for. Kressmann.	372
E	
EASTON, W. B.	234
Eastern Chemical Co. Bleaching plant. Edis compound. Substitute for sulphuric acid in scale removal	612
Edison Portland Cement Co.	290
Eimer & Amend.	113
Electric Smelting & Reduction Co.	612
Electro Bleaching Gas Co.	399
Electrochemical industries and their interest in waterpower. Addicks.	469
Electrochemical industries possible in South Africa	669
Electrodes. Contact resistance. Chaney Electrodes. Hollow. Krosberg and Straub. (D)	481
Electrodes. Production in gas-heated furnace. Nagelschmitz. (P.)	282
Electrode surface phenomena. Arsem.	480
Electrodeposition. Various uses. Digest of patents	348
Electrolytic cells. Crane for lifting electrodes. Blair. (D.)	348
Electrolytic cells. Feed device. Girouard. (D)	348
Electrolytic cell. Treating ore. Porter. (P.)	231
Electro-osmosis. Apparatus for separating clays, kaolin, etc. Illig. (P.)	541
Electro-osmosis. Tanning process. Scherwin. (P.)	542
Electrotyping baths	554
Electrotyping. Deposition of copper	487
Electrotyping. Regulation of solutions	669
Elyria Enameled Products Co.	536
Emulsions. Centrifugal force applied to. Ayres	500
English in mining schools and universities Enzian, Charles	65
Evaporation. Capacity and economy of multiple evaporators. Kerr.	459
Everson. Carrie Jane and the flotation process. Parmelee	603
Everson flotation patents	67
Exhibition. Chemical. Urbana meeting of American Chemical Society	13
Exhibits at Urbana meeting. American Chemical Society	210
Exploration. Bill to authorize.	491
Exploration. Mineral and Chemical Act passed	113
Explosives. Transportation. Taylor.	125
Explosives. Wagner	46
Exports. New regulations	499
Exposition. Newark industrial	34
Exposition. Second National Chemical exposition	635
F	
FALCKENBURG & LAUCKS.	304
Faraday Society meeting	679
Federal Dyestuff & Chemical Co.	113
Federal-Esperanza classifier	93
Federal Trade Commission. Work of.	268
Ferguson, B. M.	346
Ferguson, Hardy S.	670
Ferraris ball mill	286
Ferrochromium	509
Fermomanganese. New plant	402
Ferrosilicon. New plant on Mississippi.	402
Ferrosilicon. Tone	509
Ferrrotitanium	510
Fields flotation process at Ohio Copper Co.	13
Filter. Multiple filtration	400
Filtration. Electro-osmotic filter press. Scherwin. (P.)	101
Filtration. Slime filter and method of forming and washing solid cakes. Kelly. (P.)	102
Financial aspect of waterpower. Dunn.	472
Finlay, J. K.	670
Fire. So much fire and so little light. Hendrick	410
Fitz Gerald, F. A. J. President-elect of A. E. S.	474
FLOTATION:	
Air meter	549
Anaconda. Laist and Wiggin.	328
Bibliography. Cunningham.	332
Blower for flotation work	58
Bornite. Du Bois.	326
Callow pneumatic machine	328
Carrie Jane Everson and the flotation process. Parmelee	67
Chemistry of	615
Cobalt district	416
Conference at University of Kansas.	179
Copper ore in Canada with Callow machine	562
Cost of. Callow	32
Cripple Creek	415
Dewatering of flotation concentrate	331
Disposal of concentrates. Anderson.	381
Everson patents	43
Extension of	131
Fields process	13
Flotation and cyanidation. Clevenger Hersam	674
Form for classification of flotation data. Whitaker and Belchic.	33
Fuchs	484
History of at Inspiration. Gahl.	332
Improvement in agitation-froth process. Walsh. (S.)	399
In 1915	2
Liquid jets for absorbing gases. Du Faur	674
Meeting program	465
Minerals separation machine	328
Oils. Ralston	712
Oils and other reagents. Anderson.	135
Preferential flotation of mixed sulphide ores. Greenway and Lowry. (P.)	452
Lavers. (P.)	452
Questionnaire	562
Questionnaire. Lyon	618
Rapid progress	557
Separation of galena and blende. Owen. (P.)	452
Symposium at meetings of N. Y. Sections. A. I. M. E. and A. E. S.	572
Symposium at Ottawa	323
Symposium on the cyanidation of flotation products	569
Test tank for mill or laboratory	112
The flotation process. Rickard.	323
Theory. Bancroft	631
Theories. Callow	49
Universal theory. Du Rell.	251
Universities and the flotation process	351
Value of continuous operation	292
Versus cyanidation. Pearce	706
Washeo Reduction Works. Mathewson	327
Foils. Patterned metal. Epp. (D.)	458
Food problem and waterpower development. Cushman	471
Foreign trade. Courses in	613
Foster, Charles L.	670
Frank and Caro. Nitric acid from ammonia	425
Franklin Institute lectures	311
Franklin, E. C.	670
Fuel briquets in U. S.	554
Fuel. Coal in the United States	14
FURNACE, BLAST:	
Available hearth heat. Field	377
Available hearth heat. Johnson	464
Burdening of. Johnson	443
Calculation of the burden. Johnson	520
Coal and coke efficiency. Burman.	137
Distribution of the charge column and of the ascending gas column. Johnson	256
Feeding blast furnaces in pyritic smelting. Sticht. (S.)	642
Mechanical principles. Johnson.	537
Operation of. Johnson. 210, 266, 363, 391	77
Raw materials of the blast furnace. Johnson	318

INDEX.

V

FURNACE, BLAST: (Continued.)
 ——Recovering sludge. Brassert and Mathesius. (P.) 545
 ——Smelting of cyanide precipitate. Chauvenet 96
 ——Washing blast-furnace gases. Brassert. (P.) 396
 Furnace. Desulphurizing. Skinner. (P.) 282
FURNACE, ELECTRIC:
 —GENERAL:
 —Coke as reducing agent. Gosrow 691
 —Copper smelting in Newfoundland 553
 —Electric furnace products. Tone 509
 —High temperatures in the laboratory 465
 —Smelting iron ores in Sweden. 114
 —Some faults of the small electric steel furnace. Knight 478
 —Steel furnaces in England. 376
VARIOUS DESIGNS:
 —Birkeland-Eyde. New arrangement. Bonnevie. (P.) 544
 —Carbon resistance furnace. Dow. (P.) 100
 —Cyanides and cyanamides. Bucher 543
 —Eddy current furnace. Guggenheim. (P.) 100
 —Ferrosilicon. Harrison. (P.) 339
 —Gas reaction. Helfenstein. (P.) 282
 —Graphite. Brown. (P.) 710
 —Heat treating. Bailey and Cope. (P.) 710
 —"High temp." 166
 —Laboratory arc furnace. Watts 681
 —Melting and heat treating. Lohr and Gillett. (P.) 165
 —Multiple unit 53
 —Nitrogen fixation. Moody and Tucker. (P.) 542
 —Phosphoric acid furnace. Hechenbleikner. (P.) 100
 —Pinch furnace. Hering. (P.) 554
 —Progress of Rennerfelt 478
 —Rennerfelt 711
 —Roasting apparatus. Hampton. (P.) 100
 —Unlined furnace. Coutagne. (P.) 300
 —Wire used in tin smelting 341
 —Zinc. Helfenstein. (P.) 341
MANUFACTURE OF:
 —Aluminium nitride. Coutagne. (P.) 100
 —Cemented carbon articles. Brown. (P.) 101
 —Cyanides and cyanamides. Bucher. (P.) 543
 —Cyanides, carbon tetrachloride, silicon nitride, etc. Helfenstein. (P.) 282
 —Dephosphorized pig iron. Herroult. (P.) 545
 —Ferrosilicon. Harrison. (P.) 339
 —Ferrosilicon. New plant on Mississippi 402
 —Graphite. Brown. (P.) 710
 —Nitrides. Moody and Tucker. (P.) 543
 —Phosphoric acid. Hechenbleikner. (P.) 542
 —Steel. Davey. (S.) 54
 —Tin 300
 —Zinc. Helfenstein. (P.) 341
Furnace. Electrolytic:
 —Cyanides and cyanamides. Acker 57
 —Manufacture of amides, cyanamides and cyanides. Ashcroft. (P.) 56
 —Sodium alloys. Ashcroft. (P.) 57
Furnaces. Experimental. Electrically heated bomb furnace. Calhane and Lavene 140
Furnace. Gas heated. Carbon electrode production. Nagelschmitz. (P.) 282
Furnace. General. Roasting furnace design. Wedge. (P.) 165
Furnace. Open hearth. Compressed-air cooling of exhaust end. Eickworth. (P.) 608
Furnace. Regenerative. Bell. (P.) 281
Furnace. Regenerative. Valve mechanism. McDonald. (P.) 282
Furnace. Roasting and sintering. Meyer. (P.) 165
Furnace. Reverberatory. Fettling of. Carson. (P.) 346

G

GADD, C. G. 346
 Gaertner, Wm., & Co. 459, 610
Gas:
 —Coal-gas residuals and their application. Wagner 493

GAS: (Continued.)
 —Coke ovens as gas producers 407
 —Course in manufacture and by-product recovery at Johns Hopkins 434
 —Industrial Scientific calorimeter 610
 —Extraction of gasoline from natural gas. Burrell, Biddison, and Oberfell 651
 —Washer. Brassert and Bacon. (P.) 545
 —Washer. McDonald. (P.) 540
 —Gasolene 511
 —Estimated cost of Rittman process 678
 —Extraction from natural gas by absorption. Burrell, Biddison, and Oberfell 651
 —From petroleum. Rittman process 269
 —Production figures 601
 —Gels. Theory. Flatschek 679
 —General Chemical Co. 380
 —Gibb Instrument Co. Pyrometer 400
 —Gibb medal award to Willis R. Whitney 564
GLASS:
 —American industry. Meeting of New York Section, Society of Chemical Industry 357
 —Method of framing glass. Talnaw and Scattergood. (D.) 555
 —Optical. Manufacture of 335
 —Progress in making. Program of A. C. S. meeting 308
 —Pyrex 166
 —Theory of decolorizing 358
 —Surfaces for ore-dressing. Trewartha-James. (S.) 399
GOLD AND SILVER:
 —Antimonial gold ore. (S.) 54
CYANIDE PROCESS:
 —Agitating and settling tank. Rothwell. (P.) 609
 —Blast furnace smelting of precipitate. Chauvenet 96
 —Capacity of slime settling tanks. Coe and Clevenger. (S.) 398
 —Central mill of North Star Mines. Co. Palmer 35
 —Counter-migration of pulp and solution in cyanidation and acid leaching. MacDonald. 283
 —Cyanide consumption on the Rand. White. (S.) 107
 —Cyanidation of flotation products. Symposium 569
 —Cyaniding under pressure. Koering. (P.) 396
 —Effect of heat in cyaniding gold ores. Wraight. (S.) 223
 —Electrolysis of potassium sulphocyanate. Crook, Booth and Thiel 586
 —Electrolysis with revolving electrodes. Greenwald. (P.) 103
 —Enclosed cyanide process. Layng. (P.) 609
 —Extraction from matte by lead. Mosowitz 703
 —Hydrolysis of cyanide and value of protective alkali. Moir (S.) 163
 —New mill for Oatman, Ariz. 343
 —Pittsburgh-Dolores mill 435
 —Prevention of hydrolysis. Leslie. (S.) 107
 —Refining precipitate at Liberty Bell mill. Wering. (S.) 337
 —Relation of clay to ore-dressing and cyanidation. Allen 245
 —Rochester mill 435
 —Sodium amalgam precipitant. Foersterling and Halvorsen. (P.) 220
 —Zinc dust feeder. Colburn. (P.) 102
 —Desulphurizing gold and silver ores for cyanidation. Dickie. (P.) 609
 —Distribution of silver between lead and litharge-containing slags. Dudley 636
 —Gold leaf. Outerbridge. (D.) 349
 —Hydrometallurgical treatment of complex ores. Clevenger 203
 —Metallurgy of native silver ores of Mexico. Brodie. (S.) 278
 —Metallurgy of Sons of Gwalia ore. Stevens. (S.) 106
 —Parral agitator improvements. McDonald. (P.) 451
 —Precious metal metallurgy in 1915. 3
 —Segregation in gold bullion. Hance. (S.) 336
 —Slide rule in calculating base-bullion assays 561
 —Slime filter. Butters. (P.) 397
 —Slime filter and method of forming and washing solid cakes. Kelly. (P.) 102
 —Sodium amalgam production. Andreoli. (D.) 232
 —Tests on Washington complex low-grade silver ore 131
 —Transvaal production 114
 —Will silver come back? Tonge 122
 —Goldschmidt Detinning Co. 668
 Goldschmidt Thermit Co. 612, 718
 Grading industries. Wiard. 91, 191, 383, 529, 575
 Grain size measurements in metals. Jeffries 679
 Granby Cons. Mining, Smelting & Power Co., Ltd. 14
 Graphite crucibles. Present situation 287
 Graphite. Artificial 510
 Graphite. From coal gas manufacture. 494
 Grasselli Chemical Co. 347
 Grasselli, C. A. 403
 Grasselli, T. E. 403
 Gray, W. E., Jr. 614
 Great Britain. Notes on chemical and metallurgical engineering 334, 412
 Great Western Electrochemical Co. 177
 Great Western Power Co. 408
 Grinding. See Crushing and grinding.
 Guess, H. A. 170
 Gun. Making a big gun. Rosenhain 580

H

HAMILTON, E. H. 115
 Ha Ha Baie Sulphite Co. 717
 Hamilton & Hansell. Stockholm office 554
 Hammond, L. P. 170
 Hardinge, H. W. 62
 Hardinge Conical Mill Co. 347
 Hardness determination. Improvements in Brinell testers 612
 Harrison, N. C. 716
 Hastings, Glenn N. 403
 Haynes, Justin H. 234
 Haynes Stellite Company 45
 Heat insulators 190
 Heat. Perfect insulation. Hering 298
 Hebron-Everson process 68
 Helium. Extraction from air 189
 Hendrick, Elwood 115
 Hercules Powder Co. Kelp plant 341
 Hering pinch furnace. (P.) 100
 Hering, Carl 403
 Hersh, George J. 553
 High duty lifting magnets 229
 Higgins, Geo. H. 614
 Hill, John A. 171
 Hills, V. G. 171
 Hill bill. Hearing on dyestuff tariff 125
 Holz, Herman A. 290, 345
 Homestake Mining Co. 416
 Hooker, E. H. 147
 Hooker Electrochemical Co. 233
 Hoskin, A. J. 171
 Hoskins Mfg. Co. 717
 Howard, Henry 234
 Howe, H. E. 346
 Howe, R. E. 115
 Hull, M. R. 553
 Humbert, E. 553
 Humphrey, H. C. 234
 Hyde, James M. 115
 Hydraulic Power Co. 239
 Hydrochloric acid. New plant at Donora zinc smelter 347
HYDROGEN:
 —From water gas. Marchis 189
 —Generating system. Halter. (P.) 342
 —Military purposes. Ardery 260, 333
 —Monatomic and overvoltage. Bancroft 480
 —New electrolytic cell 108
 —Technical production and industrial application. Barnitz 391
 Hydrolysis of alkali cyanide solutions 64
 Hydrolysis in cyanide solutions. Leslie. (S.) 107
 Hydrometallurgy. See also Copper, Zinc, Lead, etc.
 Hydrometallurgy. Counter-migration of pulp and solution in acid leaching. MacDonald 283
 Hydrometers. Testing of 403
 Hydroquinones. Electrolytic production. Greenleaf 560
 Hypochlorites 412

I

ILLINOIS. University's new chemical laboratory. History of chemical department 421
 Improved Equipment Co. 718
 Index. Industrial 586
 Indiana Coke Gas Co. 32
 Industrial conditions after the war 63
 Ingersoll-Rand Co. New high-speed turbo blower 547
 Inland Steel Co. to be equipped electrically 96
 Inspiration Consolidated Copper Co.'s surface equipment. Burch 332
 Institute of Metals (London). Corrosion committee report 566
 Insulation. High temperature. Boeck 225
 Insulation. Perfect heat. Hering 298

INDEX.

Insulation. Rubber. Ladon.....	560
International Molybdenum Co.....	613
International Oxygen Co.....	403
—New cell	108
Ionides, S. A.....	62, 171, 234
Irite pyrometer	400
IRON AND STEEL:	
—Acid proof machineable iron.....	
—Agglomerating fine ore. Harding. (P.)	396
—American by-product coke oven industry. Present status. Clarke.....	601
—Apparatus for recovering sludge. Brassert and Mathesius. (P.)	545
—Available hearth heat of the blast furnace. Johnson	464
—Blast furnace operation. Johnson. 210, 266, 363, 396	
—Briquetting processes. Bibb. (P.)	
—Burdening the blast furnace. Johnson	443
—Bureau of Standards analyzed samples	635
—Calculation of the burden of the blast furnace. Johnson	613
—Canadian production	
—Charge car for sintering machine. Carney and McKay. (P.)	102
—Chattanooga Steel Co. formed.....	401
—Chromic iron ore production	
—Cleaning sheet iron plates prior to tinning. Benjamin. (D.)	555
—Corrosion 300, 412	
—Corrosion. Effect of rust. Aston.....	
—Corrosion	482
—Crucibles and their proper use in foundries	551
—Dephosphorized pig iron from electric furnace. Heroult. (P.)	666
—Direct from ore. Tiaas. (P.)	545
—Distribution of the charge column and of the ascending gas column. Johnson	340
—Domestic demand	
—Electrolytic iron. Recent progress. Storey	608
—Electrolytic iron from pyrite. Estelle. (P.)	116
—Electrolytic refining. Emmens. (D.)	114
—Electrothermic smelting of iron ores in Sweden	29
—Enameling iron	
—Electric furnace steel in Canada. Davey. (S.)	54
—Faults of small electric furnace. Knight	478
—Ferromanganese plant	402
—Ferrosilicon plant on Mississippi.....	402
—Ferrosilicon production in electric furnace. Harrison. (P.)	339
—Flue-dust recovery. Osgood. (P.)	397
—Future of steel prices	
—Gas washer. Brassert and Bacon. (P.)	545
—Gaseous reducing agents in iron production. Pratt. (P.)	340
—Invar nickel steel.....	164
—Iron alloy. Daniels. (P.)	341
—Iron and sulphur from pyrite. Wright.....	229
—Lifting magnets of large capacity	
—Magnetic and mechanical properties of steel	460
—Making steel and selling steel	616
—Manufacture and uses of alloy steels	230
—Market report. 10, 69, 168, 178, 243, 298, 361, 417, 563, 629, 676	
—Mechanical principles of the blast furnace. Johnson	77
—Most remarkable steel situation	236
—Nickel-chromium steel. Churchward. (P.)	664
—Nomographic blast pressure chart. Bailey	295
—Open-hearth furnace with air cooled exhaust ends. Eickworth. (P.)	508
—Pickling iron and steel sheets. Rawson. (D.)	555
—Ramage. (D.)	555
—Pig iron in Alabama sold up	669
—Pig iron production noteworthy	173
—Pig iron production statistics	293
—Pure iron and iron-carbon alloys	584
—Rail tonnage	461
—Reducing iron by oil vapors. Beckman. (P.)	450
—Reduction of iron and other ores without fluxing. Jones. (P.)	450
—Regenerative furnace. Bell. (P.)	281
—Regenerator for furnaces. Orth. (P.)	340
—Schumann device for reversing open-hearth furnaces	111
—Sherardizing process. Storey	683
—Steel Corporation report	353
—Steel industry moving rapidly	462
—Steel trade's wonderful year	6
—Vacuum-fused silicon iron. Yensen. (S.)	280

IRON AND STEEL: (Continued.)	
—Vacuum fusion of pure open-hearth iron. Yensen	585
—Valve mechanism for regenerative furnaces. McDonald. (P.)	281
—War steel production	672
Iron and Steel Institute. Program of annual meeting	506
—Report of meeting	459
Italy. Waterpower development	

J

JACKLING, D. C.....	458
Japan. Chemical companies get subsidies	354
—New aluminum plant	402
Japanese Electrochemical Works	233
Jersey City. Industrial exhibition	613
Johns Hopkins University. Course in gas manufacture and by-product recovery	434
Johnson, Woolsey McA.....	290
Johnston, R. J.....	62
Jones, Harry C.....	458
Joplin district. Activity in	13

K

KALBPERRY CORPORATION.....	669
Kansas. University of. Chemical engineers	669
Kansas City Testing Laboratory	460
Keeney, Robert M.....	403
Kelp. Potash from. Laucks	304
Kendall, G. M.....	717
Kennedy, G. A.....	170
Keller, G. P., Mfg. Co.....	717
Keokuk Electro Metals Co.....	402
Kiefer, Karl. Centrifugal pump	172
Kimball, H. S.....	670
Kinyon, Alonzo G.....	614
Kirchen, John G.....	290
Klein, B. T.....	234
Kocher, R. A.....	115
Koebig, Julius	614
Kokury Kai	460
Ko-shovel stoking machine	550
Koven, L. O., & Bro.....	403

L

LABORATORY. New chemical laboratory at University of Illinois	421
Laboratories of Canadian Mines Department	518
Laboratory Supply Co.....	612
Ladd, David H.....	290
Lagonda Manufacturing Co.....	400
Lakeland, W. J.....	62
Lane, H. M., Co.....	669
Lavino, E. J., & Co. start new ferromanaganese plant	402
Lawler, E. W.....	234
Lazear, W. D.....	715
LEAD:	
—Electrolytic. Lyon	176
—Extraction of gold and silver from matte. Mostowitsch	703
—Flotation of galena and blende at Broken Hill. (S.)	279
—Hydrometallurgy. Ionides	176
—Hydrometallurgy in 1915. Lyon, Ralston and Cullen	30
—Hydrometallurgy. Ellis	122
—Joplin production a record	132
—Refining leady matte. Hybinette. (P.)	711
—Separation of thallium. Hannay. (P.)	712
—Zinc and lead handbook	612
Leadville. End of labor strike	343
Leather. Imitation morocco. Cassel. (D.)	349
Leather. Substitute for sodium sulphide in unhairing hides. Pickles. (S.)	663
Leavitt & Co., C. W.....	233
Leclanche cells. Polarization. MacInnes.	481
Ledco Co. of Canada, Ltd.....	613
Lee, Richard H.....	114
Leeds & Northrup Co.....	718
Leet, Edmund	234
Lenz & Naumann, Inc.....	554
Lenzmann micrometer reading device	231
Leyshon & Lane, Inc.....	716
Liberty Bell mill. Refining cyanide precipitate. Wering. (S.)	337
Liberty Bell Mine crew	613
Lime-nitrogen. Ammonia from. Landis.	87
Linoleum. Wood flour for. Kressmann.	372
Linseed oil. Effect of certain pigments	506
Litharge. Effect of. Dudley	695
Little, A. D.....	670
Little, A. D., Inc.....	669
Lunn, C. A.....	458

Lutes and cements. Sadler	197
Lyon, Dorsey A.....	296

M

MACHALSKI, FLORENTINE J.....	171
McAfee, A. M.....	170
McHugh, P. M.....	170
McKee, Ralph H.....	670
McNair, F. W.....	62
MacCarthy, M. S.....	170
Mackenzie, J. H.....	115
Madison, Center of Research	673
Magnesium. Manufacture, properties and uses. Grosvenor	262
Magnesium aluminium alloys. Naylor and Hutton. (P.)	546
MacLeod, D. T.....	670
Magnesite	53
Magnesite from Greece	172
Magnetic separator pulley. Cutler-Hammer	233
Magnets. Lifting magnets of large capacity	229
Magnolia Metal Co.....	613
Magnus, Benjamin	62
MANGANESE:	
—Colloidal manganese dioxide. Ellis. (P.)	281
—Colon ore	347
Marchand process of treating waste sulphite liquor	669
Marcy ball-mill	286
Marden, Orth & Hastings	233
Market report. Iron and steel. 10, 69, 168, 178, 243, 298, 361, 417, 563, 629, 676.	
Market report. Non-ferrous. 11, 90, 167, 178, 244, 298, 362, 506, 563, 676.	
Marsh, Clarence W.....	170
Marshall, Stuart B.....	115
Mary Murphy Gold Mining Co.....	360
Massachusetts Institute of Technology. Dedication of new buildings	662
Mathews, John A.....	170
Meetings. Two chemical	461
Merris, M. H.....	553
Mesothorium	34
Metal prices and wages	236
Metal production in U. S. in 1914	348
Metals. Recovery of electrolytically. Richards and Roeper. (D.)	404
Metal sheets or hollow forms. Electrolytic. Dessoile. (D.)	404
Metals Production Equipment Co.....	347
Meter. Combination boiler	667
Meter. Fluid meter for steam, water and gases	456
Metric system in Denmark	612
Mexico. After Villa, what?	352
Mexico. Conditions in	242
Mexico. Metallurgy of native silver ores. Brodie. (S.)	278
Miller Smelting & Refining Co.....	172
Minerals. Synopsis of 1915 production	161
Mineral Products Co.....	132
Mineral Products Corporation	113
Mining Convention. Northwest	347
Minnesota Testing Laboratories, Inc.....	300
Mitchell, A. E.....	614
Mitchell, E. A.....	614
Mixer	667
Mojave Tungsten Co.....	224
Molybdenum	510
—Concentration of molybdenite. Andrews. (S.)	454
—New smelting plant	613
—Substitute for platinum. Fahrenwald. (S.)	339
Monel metal. New uses	110, 172
Morse Bros. Machinery & Supply Co.....	113
Mulliken, H. S.....	234
Munroe, H. S.....	346
Muscle Shoals project	418
Mustard oil. Largest plant in world	524

N

NAGANUMA, S.....	716
Naphthalene. From coal gas manufacture	494
Naphthalene. Solubility in ammonia. (S.)	709
National Association of Manufacturers' Convention	641
National Kelp Potash Co.....	347
National Ox-Hydric Co.....	233
—Electrolyzer	288
NAVAL CONSULTING BOARD:	
—Meeting	12
—FitzGerald	66
Neill, W. A.....	404
Neon. Extraction from air	189
New Castle Rubber Co.....	171
New Jersey Meter Co. Air meter for flotation	459
New Jersey Zinc Co.....	403
Nevada Wonder Mining Co.....	14
Newark's Industrial Exposition	586, 635

INDEX.

Newhouse, E. L., Jr.....	494
Newlands bill and research.....	413
—Whitney	565
Newspaper science.....	176
Niagara Electrochemical Co.'s sodium peroxide plant destroyed.....	300
NIAGARA FALLS:	
—Commercial research laboratory of the nation. Hooker.....	261
—Further development. Beckman.....	408
—Industrial Canada	351
—Power and American industries. Symposium at Washington meeting of A. E. S.....	507
—Power famine	235
Niagara Falls Power Co.....	239
Nichols, Wm. H.....	413
Nichols, W. H., Jr.....	290
Nichols medal presentation.....	300
Nickel. Electrolytic cell for extraction. Metzger and Whitaker. (P.)	665
Nickel. Plating. Mathers, Stuart, and Sturdevant	483
Nickel-copper-chromium alloys. Sebast and Gray	477
Nickel-copper-manganese alloys. Sebast and Gray	477
Nipissing Mines Co.....	416
Nitrates. Industry in Chile. Cuevas. Nitre cake. Substitute for sulphuric acid. Grossman (S.)	426
Nitre cake.....	453
Nitre cake. Use in sulphate of ammonia manufacture	718
Nitric acid. See also Nitrogen; Fixation. —Oxidation to ammonia. Landis.....	564
—Production from ammonia by Ostwald process. Schuphaus.....	425
NITROGEN. FIXATION:	
—Combined furnace and boiler. Schefflein. (P.)	418
—Congressional discussion and bills. Proposed duPont and cyanamid plants	114
—Development of industry in U. S.	543
—Electric furnace process. Bucher. (P.)	513
—Landis	544
—New arrangement of Birkeland-Eyde furnace. Bonnevie. (P.)	715
—New company.	620
—Nitrogen industry. Berg.....	342
—Process. Hoofnagle. (P.)	542
—Process. Moody and Tucker. (P.)	362
—Proposed duPont plant	188
—Production from liquid air. Marchis. Nolan, J. J.....	553
Nomographic charts for conveyor belt calculations. Haylett.....	8
Non-ferrous metal market. 11, 90, 167, 244, 298, 362, 506, 563, 676.	178
Nonpareil pipe and boiler covering.....	551
Norris, J. F.....	715
Northport Smelting & Refining Co.....	13
North Star Mines Co., Central mill. Palmer	35
Norwegian Electro-Metal Co.....	554
Nowak, Carl A.....	170

O

OHIO COPPER CO.....	13
O'Brien, F. Dry amalgamator.....	115
Ohmes, A. K.....	290
Oils. Cracking low grade coal tar oils for benzene and toluene. Rittman and Egloff	15
Oil. Electrostatic separation of oil and water. Peck. (P.)	343
Oils from conifer leaves. Schorger.....	515
Oils. Hydrogenation.....	394
Oil. Recovery of metal from waste oils. Rothberg. (P.)	343
Olefins. Effect of temperature on their formation from petroleum at atmospheric pressure. Egloff and Twomey	247
Oliver, T. C.....	115
Oliver Quartz Co.....	233
Ores. Complex. Chloridizing of. Titus and Barendsheer. (P.)	451
Ores. Reduction without fluxing. Jones. (P.)	450
Osmosis. Principle used in filter press. Schwerin. (P.)	101
Osmosis. See also electro-osmosis.	
Ostwald process. Nitric acid from ammonia. Schuphaus	425
Overvoltage and monatomic hydrogen. Bancroft	480
Overvoltage. Bennett and Thompson..	479
Owitz, Nathan	404

Oxygen. Generating system. Halter (P.)	342
Oxygen and nitrogen. New company.	715
Oxygen and hydrogen. See also Hydrogen.	
—National Ox-Hydric Co.'s electrolyzer	288
Oxygen. New electrolytic cell.....	108
Oxygen. Production from liquid air. Marchis	188
Ozone. Generator. Freet. (P.)	397
Ozone. Process of producing. Steynis. (P.)	398
Ozone. Treating oils, greases and fats. Braydel. (P.)	711

P

Pacific Coast Steel Co.....	233
Paint. Rapid-drying. Levache.....	708
Palmer, Charles S.....	234
Palo Company	550
Papers. Chemistry and. Hesse.....	619
—Lidbury	674
Paper. Machines. Sandham. (D.)	350
Paper. Metal. Endruweit. (D.)	350
Paper. Shortage of paper material.....	402
Paper thread and cloth.....	285
Parabolic reflectors. Garrett. (D.)	349
Parmelee, H. C.....	171
Parral agitator improvements. MacDonald. (P.)	451
Passive state of metals. Bennett and Burnham	479
Parral tank for flotation tests.....	112
Patents. Electrochemical digest	283
Patents. Recent chemical and metallurgical. 55, 100, 164, 220, 281, 339, 396	348, 404, 458, 555.
Patents. Recent chemical and metallurgical. 55, 100, 164, 220, 281, 339, 396	450, 539, 608, 664.
Pearce, Ernest B.....	62
Peiter, F.....	62
Penobscot Chemical Fibre Co.....	717
Pentland, W. J.....	234
Perchlorate. Electrolytic formation. Bennett and Mack.....	481
Perchlorates and chlorates. Process of manufacture. Gibbs. (P.)	540
PERKIN MEDAL:	
—Presented to L. H. Blakeland....	12
—Presentation speech by C. F. Chandler	147
—Speech of acceptance by L. H. Blakeland	148
Peroxides. Electrolytic production. Webster. (P.)	151
Peru. Metallurgical progress.....	541
Peruvian Potash and Chemical Co.....	308
PETROLEUM:	
—Benzene-toluene and gasoline from. Rittman process	269
—Benzene-toluene and gasoline from. Rittman process	269
—Effect of temperature on the formation of olefins at atmospheric pressure. Egloff and Twomey	247
—Problems. Bacon	650
—Production in 1915	114
—Standard tables	233
Phelps, Dodge & Co.....	624
Phosphate resources of U. S.	546
Phosphate. Investigation of Alberta deposits	403
Phosphates. Use of low grade. Barr.	202
Phosphoric acid. Electric furnace production. Hechenbleikner. (P.)	542
Phosphorus. Uses	512
Photochemistry. Curtis	183
Pierce, F. E.....	171
Pipe and boiler covering. Nonpareil.	551
Pittsburgh-Dolores Mining Co.....	435
Pittsburgh-Wheeling district electric power development	110
PLATING:	
—Apparatus for large scale work. Barber. (D.)	169
—Cleaning prior to plating. Sturdy and Young. (D.)	555
—Brown and Brown. (D.)	555
—Continuous apparatus for magnetic material. Buch. (F.)	555
—Holder for articles. Allen. (D.)	555
—Marks. (D.)	555
—Buck. (D.)	555
—Low. (D.)	555
—Iron bulls of vessels. Buchanan and Crane. (D.)	116
—Maintaining level of solution automatically. Hayden. (D.)	116
—Nickel. Mathers Stuart and Sturdevant	116
—Paper at Washington meeting of A. E. S.	483
—Pipes. Buch. (P.)	482
—Reducing time of copper plating. Koch and Hagmaier. (P.)	223
—Shadowing articles. Buck. (D.)	665
—Sides of a ship. George. (D.)	232
—Silver. Mathers and Ruebler	170
—Supports for articles to be plated. White, Dunlap, Possons, Catlin and Reams. (D.)	483
—Tin. Mathers and Cockrum	115

PLATING: (Continued.)	
—Toy outfit. Clark. (D.)	116
—Unsolved problems. Hogaboom	482
PLATINUM:	
—Discovery in Spain	114
—Use of hydrogen in melting	394
—Substitute. Silver-palladium alloys. Heyl. (P.)	164
—Tungsten and molybdenum as substitutes. Fahrenwald. (S.)	339
Polarization in Leclanche cells. MacInnes	481
Pomeroy, R. E. H.....	171
Porcelain ware. Ohio Pottery Co.....	547
Portland Gold Mining Co.....	344
POTASH:	
—From kelp in Southern California. Glaze	355
—Banana stalks as source. Ellis. (S.)	663
—California plant in successful operation	554
—From kelp. Laucks	304
—New kelp plants	241
—New plants	347
—Production in Utah	132
—Production in 1915	500
—Recovery from cement plants	402
—Recovery from distillery waste	459
—Western alkali lakes	359
Potash Recovery Co.....	459
Potassium sulphocyanate. Electrolysis. Crooks, Booth, and Thiel	587
Power. See also Waterpower.	
—Ail around the edges. Beckman	408
—Combination of steam and electricity	560
—Famine at Niagara Falls	235
—Hydro-electric. Development of. Walker	354
—Hydro-electric. Industrial Canada and Niagara Falls	351
—Niagara Falls and other sources	294
—Place value of Waterpower	291
—Possibilities of Pacific Northwest for cheap power from central stations. Herring	408
—Waterpower development in Italy	459
Preparedness parade	650
Preparedness. National industrial	235
Preparedness. Problem of. Saunders	259
Pritchard, Thomas W.....	459
Puget Sound Traction, Light and Power Co. Herring	408
Pump. Centrifugal. Adjustable pressure	172
Purification of saccharine liquids, water, etc., by electrolysis. Pridham. (D.)	231
Pyrex glassware	166
—Development of. Sullivan	357
Pyritic smelting at Mt. Lyell. Sticht. (S.)	54
Pyrometer. The Irite optical pyrometer	400

Q

QUARTZ GLASS. Use of hydrogen	394
Quicksilver in California in 1915	347
Quigley Furnace & Foundry Co.....	172
Quigley Furnace Specialties Co.....	613

R

RADIOSCOPE for estimation of radioactive bodies	346
Radioactivity. Transmutation of chemical elements	709
Radium. From carnotite. Parsons	51
Radium. Extraction. Moore. (P.)	221
Ralston, O. C.....	290
Rand, Charles F.....	439
Rare gases of atmosphere. Extraction. Marchis	189
Raritan Copper Works	244
Raymond, Robert M.....	346
Raymond air separator	92
Raymond Bros. Impact Pulverizer Co.....	459
Read, Thomas T.....	115
Reading device for thermometers and burettes	231
Reflectors. Manufacture of. Copper-Coles. (D.)	458
Refrigeration in France. Marchis	187
Regenerator. Orth. (P.)	340
Research and the Newlands bill. Whitney	565
Research bureau for Pacific coast	347
Research Mfg. Co.....	290
Research. Co-operation in. Addicks and Lidbury	476
Resistor material. Hunter. (P.)	222
Retort for high pressures and temperatures. Watson. (P.)	381
Rice, Chas. W.....	347
Richards, J. W.....	171
Richards, W. J.....	459
Richardson-Phenix Co.....	669

INDEX.

Richardson Scale Co.	172	SODIUM CHLORIDE ELECTROLYSIS:	
Riche Adiabatic calorimeter.	233	—Chlorates and perchlorates. Gibbs. (P.)	540
Rickard, John H.	171	—Diaphragm Cell. Du Bois. (P.)	664
Ricketts, L. D.	234,	—Diaphragm for chloride electrolysis. Clemm. (P.)	101
Riddell, G. C.	459	—Electrolytic cell. Bein. (D.)	231
Rittman, Walter F.	459	—Electrolytic cell. Dow. (D.)	232
Rittman processes for benzene-toluene and gasoline from petroleum.	269	—Electrolytic cell. Gibbs. (P.)	540
—Estimated cost	678	—Hargreaves-Bird process in successful use	459
Roberts, J. M. M.	171	—Hypochlorite cell. Williams. (P.)	665
Roberts, W. F.	346	—Improvements in mercury cathode cell. Heinemann. (P.)	539
Robeson Process Co.	669	—Iron and hydrogen alloy for anodes and cathodes. Gesner. (D.)	232
Rochester Mines Co.	437	—Non-metallic cathode. McDonald. (P.)	222
Rockwell, W. S.	459	Sodium cyanide. New extraction plant.	402
Roitsheim-Remy continuous zinc distilla- tion process. Liebig-Ralston.	625	Sodium hydrosulphite preparation and cell for. Andreoli. (D.)	170
Roos' Son, August	668	Sodium hydrosulphite. Manufacture in the sugar factory	564
Rose, S. H.	716	Sodium peroxide plant at Niagara de- stroyed	300
Rosin. Industry in South.	427	Sodium sulphide. Substitute for in leather industries. Pickles. (S.)	663
RUBBER:		Schocky-Willis radioscope	346
—Chemical analysis of rubber goods. King	581	Sons of Gwalia. Australia	107
—Museum of rubber and its products at Urbana meeting, American Chemical Society	492	South American Electric Smelting Co.	300
—Reclaiming of rubber waste. King.	309	South Africa. Possibilities for electro- chemical industries	669
—Measuring barium compounds	233	Southern Electrochemical Co.	171
—Rubber industry. King	23,	Sperry, B. E.	171
—Rubber mill. Magnetic clutch brake.	71	Sperry & Co., D. R.	459
—Testing rubber insulation. Ladon.	60	Stack, James R.	614
Rugg, Daniel M.	560	Standard Calorimeter Co.	231
Ruggles, Wm. B.	553	Standard Car Construction Co.	718
Russia. Chemical industries	442	Statuettes. Worthen and Gillespie. (D.)	348
Rust, W. R.	62	Stearns, T. B.	171
SABLE RIVER MINING CO.	562	Stearns-Roger Mfg. Co. (Baker cooler).	166
Sadtler, Sam P., & Son	346	Steere, Frank W.	234
Sadtler, P. B.	670	Stellite	45
Safety First Exposition	290	Stephens, G. H.	716
Salt Lake Chemical Co.	612	Stephens-Adamson Mfg. Co.	113
Santa Gertrudis, Ltd.	243	Stoker. New mechanical	550
Sarco Co., Inc.	172,	Stoughton, Bradley	553
S. & H. oil immersed cut-out	612	Strain. Instrument for determining	553
Saunders, W. L.	167	Stratton's Independence, Ltd.	242
Sawyer, W. N.	62	Struthers, Joseph	670
Schluederberg, Carl G.	553	Stupakoff Laboratories, Inc.	289
Schmitt, Philip	404	Sugar. Tests of evaporators. Kerr.	603
Schneider, Wm. G.	670	Sulphide Corporation. Broken Hill. Flo- tation at. (S.)	279
Scholarships in chemical engineering	459	Sulphidization at Great Falls.	331
Schultz, R. W.	568	Sulphite liquor. Alcohol from	669
Schumann device for reversing open- hearth steel furnaces.	115	Sulphur. Production with iron. Wright. (P.)	341
Schutte and Koerting Co.	612	SULPHURIC ACID:	
Science and engineering	64	—New Utah plant	132
Scientia calorimeter	610	—Niter cake as substitute	290
Scientific management. Summer session at Pennsylvania State College.	584	—Niter cake as substitute. Grossman. (S.)	453
Seimateco-Brinell hardness testing machine	58	—Nitric acid from ammonia used in making. Schüphaus	425
Screamers. Ten Broek	619	—Production in 1915	669
Screening. Mass screening with flat screens. Wiard	383	—Use of substitute for in scale removal	290
Screening. Probability and chance in Herz	297	Supplee-Biddle Hardware Co.	113
Seaboard By-Product Co. Coke ovens and benzol	347	Suspensions. Centrifugal force applied to. Ayres	500
Seaboard By-Product Coke Co.	612	Swart, W. G.	234
Security Cement & Lime Co.	402	Sweet, John Edison	716
Seldon, H. W.	614	Sweetland Filter Press Co.	347,
Selenium	112	Swift & Co. Potash plant.	613
Self-Contained. Shall the U. S. be?	117	Swoboda, H. O.	357
Sharpening files. Apparatus for. Wicks. (D.)	232	Symons disc crusher	290
Sharpless Specialty Co.	500	Synopsis of recent chemical and metal- lurgical literature—54, 105, 163, 225, 278, 336, 398, 453, 537, 663.	230
Shepard, F. E.	171	T	
Sherardizing process. Storey.	683	TANK. Agitating and settling. Roth- well. (P.)	609
Signs. Making by electrodeposition. Heergeist. (D.)	458	Tank. Electrolytic. Roberts. (D.)	169
Silicon metal	510	TANNING. Electro-osmotic tanning process. Schwerin. (P.)	542
Silcoel insulation for high temperatures.	225	Tar. From coal gas manufacture	494
SILVER: see also Gold and Silver.		Tar. Production figures	602
Silver-palladium alloys as platinum sub- stitutes. Heyl. (P.)	164	Tariff commission likely to be created..	129
Silver. Method of cleaning. Theuerner. (D.)	555	Tariff. Hearings for proposed duty on dyestuffs	125
Silver plating. Mathews and Kuebler..	483	Taylor, A. W.	670
Simpson, J. E.	614	Taylor, George M.	553
Sinderlite	289	Temperature. Discussion on high tem- peratures in the laboratory at Faraday Society	465
Skene, Roberta	404	Tenney, T. S.	290
Skinner, T. M., Jr.	346	Thallium. Separation from lead ores. Hannay. (P.)	712
Smelting. See under various metals.		Thayer, B. B.	115
Smith, E. A. C.	62	Thermite welding. New method of pro- ducing mixtures. Deppeier. (P.)	281
Smith, G. F. Wood.	553	Thermocouples. Use of cobalt. Kowalek.	477
Smith, Lyon	715	Thermometers. Quartz resistance	611
Snyder Electric Furnace Co.	233	Thiele, Ludwig A.	290
Societies. Scientific and engineering.		Thornhill, E. B.	553
One function of in democracy.			
Society of Chemical Industry. New York Section	268, 415, 500, 564	VACUUM-FUSED silicon iron. Yenssen. (S.)	280
Soda. Le Blanc process.	512	Vanadium	510
Soda ash from Western alkali lakes.	359	Vanadium. Extraction. Moore. (P.)	221
Soda. Solvay process.	512	Vanadium. Separation from crude sodium uranate. Barker and Schlundt.	18
Sodium. Metallic	512	Vanadium-Alloys Steel Co.	460
Sodium amalgam. Electrolytic produc- tion. Andreoli. (D.)	232	Van Zwaluwenburg, A.	346
Sodium amalgam precipitant for cyanide solutions. Foersterling and Hal- vorsen. (P.)	220	Velox. History of introduction	148,
		Villa. After him, what?	153
			352
		WADLEIGH, F. R.	614
		Wages. Metal prices and	236
		Washing. Electrical apparatus. Johan- son. (D.)	169
		Washington low-grade complex silver ore.	131
		Tests on	
		Washoe Reduction Works.	327

INDEX.

Water flow measurement. Saline method.	
Peaslee, (S.)	454
Waterpower. See also Power.	
Conference of A. I. E. E.	469
Electrochemical industries' interest.	Addicks
Waterpower and the food problem.	Cushman
Waterpower and transportation.	Stillwell
Waterpower and defense.	Whitney
Waterpower and its financial aspect.	Dunn
South American law.	Brown, (S.)
Symposium at Washington meeting	A. E. S.
Power development.	Edmonds
Chemical industries.	Hoover
Electric furnace products.	Tone
Nitrogen industry.	Landis
Water.	Multiple filtration filter and grease extractor
Wax forms.	Rogers, (D.)
Wayland, Russel	
Welding:	New method of producing aluminothermic mixtures. Depeler, (P.)
Welding sheet aluminum.	
Wellman-Seaver-Morgan Co.	
Western metallurgical field.	13, 131, 177, 359, 415, 561, 623
Westinghouse Electric & Mfg. Co.	
Wilding, Wilbur S.	
Wile electric furnace.	
Williams, Thomas F.	
Wilson, T. L.	
Wilson, Frank	
Wilson-Maulen Co.	
Wolverine Laboratories Co.	
Wood flour.	Kressmann
Wood pulp.	Swedish embargo
Wood waste. Utilization of.	Little
Wood waste and other pulpwoods use in 1914.	Surface
	701
Wool fat recovery.	Ayres
Worden, E. P.	317
Wright, Louis A.	347
Wysor, R. J.	234
	459
X	
X-Rays.	Application to metallurgy
—and crystal structure with reference to certain metals.	Bragg
	345
	694
Y	
Yamashita, M.	
Young, George J.	
Yukon Gold Co.	
	404
	670
	360
Z	
ZINC:	
Activity in the Joplin district.	
Analysis of retort residue.	
Briquetting zinc ores.	Kippe, (P.)
Device for cleaning retorts.	Heinz, (P.)
Duplex smelting process.	Johnson and Hale, (P.)
Electric furnace.	Helfenstein, (P.)
Electric furnace treatment.	Berglund, (P.)
Electrolytic:	
Addition agents.	In electrolysis Hall, (P.)
	103
	200
	711
	452
	341
	711
	165
ELECTROLYTIC: (Continued.)	
Anaconda's electrolytic plant.	132
Bully Hill, Hansen	120
Daly-Judge to erect plant.	343
Description of Anaconda practice.	
Ingalls	264
General	5, 30
Great Falls plant	177
Laist and Frick, (P.)	220
Lyon	176
Norwegian plant	554
Extraction from smelter fume.	Best, (P.)
Flotation of galena and blende at Broken Hill, (S.)	279
Hydrometallurgy in 1915.	Lyon, Ralston and Cullen
Hydrometallurgy.	Best, (P.)
Extraction with sulphur dioxide solution.	Durant, (P.)
Joplin production a record.	666
Lungwitz smelting process.	Johnson, (S.)
Metallurgy of in 1915.	5
New plant in Oklahoma.	362
Production in 1915.	553, 623
Production of zinc oxide.	Tunin, (P.)
Recovery from zincy slags.	Truax, (P.)
Removal of cadmium from zinc ores.	Rigg, (P.)
Roasting zinc flotation concentrates.	Drefahl, (P.)
Roitscheim-Remy continuous distillation process.	Liebig-Ralston
Sherardizing process.	Storey
Smelting process.	Peacock, (P.)
Treatment of leady or iron zinc ores.	De Saulles, (P.)
Zinc and lead handbook.	666
Zinc carbonate. Calcination of.	Simpson
	612
	181

AUTHOR'S INDEX

A DDICKS, LAWRENCE. Electrochemical industries and their interest in water power	469
— Presidential address delivered before A. E. S. at Washington	475
Allen, A. W. Relation of clay to ore-dressing and cyanidation	245
Anderson, R. J. Metallurgical disposal of flotation concentrates	381
— Oils and other reagents in flotation	
Andrews, C. Osgood. Glass we see through	135
Andrews, E. C. Concentrating molybdenite	358
Ardery, E. D. Hydrogen for military purposes	454
Argall, Philip. Cyanidation of flotation products	333
Ashburn, G. H., and Burton McCollum. Influence of alternating current on electrolytic corrosion	569
Ayers, Eugene E. Application of centrifugal force to suspensions and emulsions	389
— Recovery of wool fat	
	500
	317
B AEKELAND, L. H. Speech of acceptance of Perkin medal	151
Bailey, L. H. Nomographic blast-pressure chart	295
Bancroft, Wilder D. Flotation	631
Barker, Howard H., and Herman Schlundt. Experiments on the separation of vanadium from crude sodium uranate	18
Barnitz, Harry L. Technical production of hydrogen and its industrial application	391
Barr, James A. Use of low-grade phosphates	202
Beckman, J. W. All around the edges	408
Belchic, George, and W. A. Whitaker. A form for the classification of flotation data	33
Berg, Eystein. Nitrogen industry	620
Biddison, P. M.; Oberfell, G. G., and G. A. Burrell. Extraction of gasoline from natural gas by absorption methods	651
Blatchford, John, and H. O. Hofman. Behavior of stibnite in oxidizing roast	163
— and Wm. T. Hall. Determination of antimony in roasted stibnite	
Hoeck, P. A. High-temperature insulation	164
	225
Bogert, M. T. University and Industry	414
Booth, L. E.; Crook, W. J., and A. Thiel. Electrolysis of alkaline sulphocyanate solutions	587
Bragg, W. H. X-rays and crystal structure	694
Brashears, John A. Science and aesthetics	200
Brodie, W. M. Metallurgy of native silver ores of Mexico	278
Brown, Rome G. Waterpower laws in South and Central America	663
Burgess, G. K., and I. N. Kellberg. Allopathy of copper	709
Burman, Birger F. Coal and coke efficiency in blast furnace operation	137,
	256
Burrell, G. A.; Biddison, P. M., and G. G. Oberfell. Extraction of gasoline from natural gas by absorption methods	651
C ALHANE, D. F., and H. A. Lavene. An electrically heated bomb furnace	140
Callow, J. M. Cost of flotation	32
— Cyanidation of flotation products	
— Theories of the flotation process	49
Campbell, J. R. Sulphur content of coke	710
Chance, Edwin M. Application and earning power of chemistry in coal mining	440
Chandler, C. F. Presentation speech at Perkin medal award	148
Chase, Charles A. Cyanidation of flotation products	571
Chauvenet, Regis. Blast furnace smelting of cyanide precipitate	96
Clarke, F. W. Pure and applied chemistry	317
Clarke, T. C. Present status of American by-product coke-oven industry	502
Clevenger, G. H. Hydrometallurgical treatment of complex gold and silver ores	601
— Flotation and cyanidation	
— and H. S. Coe. Determining the capacity of slime settling tanks	203
— Coe, H. S., and G. H. Clevenger. Determining the capacity of slime settling tanks	674
Colley, B. T., and R. E. Douglass. Metallurgical methods of the Braden Copper Co.	398
Crook, Welton J.; Booth, L. E., and Arthur Thiel. Electrolysis of alkaline solutions of potassium sulphocyanate	379
	587
D AVEY, J. E. Electric furnace steel in Canada	54
Dean, E. W. See Rittman, W. F.	269
Dorr, J. V. N. Classifying	295
Douglas, R. E., and B. T. Colley. Metallurgical methods of the Braden Copper Co.	279
Du Bois, H. W. Flotation of bornite	326
Dudley, Boyd, Jr. Distribution of silver between metallic lead and litharge containing slags	636
— Effect of litharge	
Du Faur, B. Liquid jets for absorbing gases and the flotation process	695
Dunn, Gano. Waterpower situation including its financial aspect	674
DuRell, C. Terry. Universal flotation theory	473
Dutton, C. B. See Rittman, W. F.	251
	269
E DMANDS, I. R. Power development	507
— Egloff, G., and Walter F. Rittman. Thermal reactions in the vapor phase of various coal tar oils and distillates	
— and T. J. Twomey. Effect of temperature and pressure on formation of olefins from petroleum at atmospheric pressure	15
Ellis, Henry R. Hydrometallurgy of lead	247
Ellis, R. H. Potash in banana stalks	122
F AHRENWALD, FRANK A. Tungsten and molybdenum as substitutes for platinum	339
Feild, Alex L. Available hearth heat of the blast furnace	377
Ferguson, C. B. Magnetic clutch brake in rubber mill	60

INDEX.

Fitz Gerald, F. A. J. A board that receives no pay.....	66	Landis, W. S. Fixation of nitrogen.....	260
Fort, Michel. Metallurgical progress in Peru.....	308	—Nitrogen industry	513
French, R. W. Cyanidation of flotation products.....	569	—Production of ammonia from cyanamide	87
Gibbs, W. E. Corrosion of condenser tubes.....	566	Laucks, I. F. Potash from kelp.....	304
GLAZE, H. L. Potash from kelp in Southern California.....	355	Lavene, H. A. and D. F. Calhoun. An electrically heated bomb furnace.....	140
Gosrow, R. C. Coke as a reducing agent in electric furnaces.....	691	Leslie, Hugh M. Prevention of hydrolysis in cyanide solutions.....	107
Greenleaf, A. R. Experiments on the electrolytic production of hydroquinone.....	560	Levache, A. Rapid-drying paint.....	414
Grossmann, J. Utilization of nitre cake.....	453	Levene, P. A. University and industry.....	674
Grosvenor, W. H. Magnesium.....	262	Lidbury, F. A. Chemistry and daily papers.....	133
HALL, W. T. Determination of antimony in roasted stibnite.....	164	Liebig, M. Roitsheim-Remy continuous zinc distillation process.....	625
Hance, James H. Segregation in gold bullion.....	336	Little, A. D. Utilization of wood waste.....	571
Hansen, C. A. Electrolytic zinc at Bully Hill.....	120	Locke, Charles E. Cyanidation of flotation products.....	239
Haylett, Robert E. Nomographic charts for conveyor belt calculations.....	8	Lovelace, F. L. Power famine at Niagara Lyon, Dorsey A. Electrolytic lead.....	176
Heinke, W. Paper thread and cloth.....	284	—Electrolytic zinc	176
Hendrick, Elwood. So much fire and so little light	409	—Questionnaire on flotation	618
—The chemist on the board.....	238	Lyon, D. A.; Ralston, O. C., and J. F. Cullen. Hydrometallurgy of zinc and lead in 1915.....	30
Hering, Carl. Perfect heat insulation.....	298		
Herring, W. E. Cheap power from central stations for electrochemical work. Possibilities of Pacific Northwest.....	408		
Hersam, Ernest A. Flotation and cyanidation.....	675		
Herty, Charles H. Turpentine industry in the Southern States.....	427		
Herz, Nathaniel. Probability and chance in screening	297		
Hesse, Bernhard C. Chemistry and daily papers	619		
Hilpert, S. Solubility of naphthalene in ammonia.....	709		
Hoffman, E. J. Nitration of toluene.....	467		
Hofman, H. O. Behavior of stibnite in oxidizing roasts.....	163		
Hooker, A. H. Chemical industries.....	511		
—New war products	261		
—Niagara Falls a national defense necessity	241		
Hooker, E. H. University and industry.....	414		
Howard, Henry. Necessity for an American dyestuff industry.....	180		
Hubert, H. Belgian chemical industries..	376		
INGALLS, W. R. Electrolytic zinc.....	264		
Ionides, S. A. Hydrometallurgy of lead	176		
JOHNSON, J. E., JR. Available hearth heat of the blast furnace.....	464		
—Burdening the blast furnace.....	443		
—Calculation of the burden of the blast furnace.....	520		
—Distribution of the charge column and of the ascending gas column	642		
—Mechanical principles of the blast furnace	387		
—Operation of the blast furnace, 210, 266, Raw materials of the blast furnace.....	363		
Johnson, Woolsey McA. Lungwitz zinc-smelting process	318		
—Proposed quick analytical method for determining the zinc in retort residues or electric zinc furnace slags	105		
Johnston, James. Cyanidation of flotation products	395		
Jordan, H. W. Development of coal-tar products in U. S.	144		
Jorissen, W. P., and J. A. Vollgraf. Transmutation of chemical elements	709		
KERR, E. W. Capacity and economy of multiple evaporators	603		
King, Andrew H. Chemical analysis of rubber goods	581		
—Reclaiming of rubber waste	309		
—Rubber industry	71		
Koepping, Emil D. Electrolytic determination of copper in copper-manganese.....	441		
Kressmann, F. W. Wood flour.....	372		
Kuzell, C. R. Grades of coal permissible for reverberatory smelting	338		
ADON, AARON A. Testing rubber insulation	560		
Laist, Frederick, and A. E. Wiggin. Flotation at Anaconda.....	328		
GLAZE, H. L. Potash from kelp in Southern California.....	355		
Gosrow, R. C. Coke as a reducing agent in electric furnaces.....	691		
Greenleaf, A. R. Experiments on the electrolytic production of hydroquinone.....	560		
Grossmann, J. Utilization of nitre cake.....	453		
Grosvenor, W. H. Magnesium.....	262		
HALL, W. T. Determination of antimony in roasted stibnite.....	164		
Hance, James H. Segregation in gold bullion.....	336		
Hansen, C. A. Electrolytic zinc at Bully Hill.....	120		
Haylett, Robert E. Nomographic charts for conveyor belt calculations.....	8		
Heinke, W. Paper thread and cloth.....	284		
Hendrick, Elwood. So much fire and so little light	409		
—The chemist on the board.....	238		
Hering, Carl. Perfect heat insulation.....	298		
Herring, W. E. Cheap power from central stations for electrochemical work. Possibilities of Pacific Northwest.....	408		
Hersam, Ernest A. Flotation and cyanidation.....	675		
Herty, Charles H. Turpentine industry in the Southern States.....	427		
Herz, Nathaniel. Probability and chance in screening	297		
Hesse, Bernhard C. Chemistry and daily papers	619		
Hilpert, S. Solubility of naphthalene in ammonia.....	709		
Hoffman, E. J. Nitration of toluene.....	467		
Hofman, H. O. Behavior of stibnite in oxidizing roasts.....	163		
Hooker, A. H. Chemical industries.....	511		
—New war products	261		
—Niagara Falls a national defense necessity	241		
Hooker, E. H. University and industry.....	414		
Howard, Henry. Necessity for an American dyestuff industry.....	180		
Hubert, H. Belgian chemical industries..	376		
INGALLS, W. R. Electrolytic zinc.....	264		
Ionides, S. A. Hydrometallurgy of lead	176		
JOHNSON, J. E., JR. Available hearth heat of the blast furnace.....	464		
—Burdening the blast furnace.....	443		
—Calculation of the burden of the blast furnace.....	520		
—Distribution of the charge column and of the ascending gas column	642		
—Mechanical principles of the blast furnace	387		
—Operation of the blast furnace, 210, 266, Raw materials of the blast furnace.....	363		
Johnson, Woolsey McA. Lungwitz zinc-smelting process	318		
—Proposed quick analytical method for determining the zinc in retort residues or electric zinc furnace slags	105		
Johnston, James. Cyanidation of flotation products	395		
Jordan, H. W. Development of coal-tar products in U. S.	144		
Jorissen, W. P., and J. A. Vollgraf. Transmutation of chemical elements	709		
KERR, E. W. Capacity and economy of multiple evaporators	603		
King, Andrew H. Chemical analysis of rubber goods	581		
—Reclaiming of rubber waste	309		
—Rubber industry	71		
Koepping, Emil D. Electrolytic determination of copper in copper-manganese.....	441		
Kressmann, F. W. Wood flour.....	372		
Kuzell, C. R. Grades of coal permissible for reverberatory smelting	338		
ADON, AARON A. Testing rubber insulation	560		
Laist, Frederick, and A. E. Wiggin. Flotation at Anaconda.....	328		
GLAZE, H. L. Potash from kelp in Southern California.....	355		
Gosrow, R. C. Coke as a reducing agent in electric furnaces.....	691		
Greenleaf, A. R. Experiments on the electrolytic production of hydroquinone.....	560		
Grossmann, J. Utilization of nitre cake.....	453		
Grosvenor, W. H. Magnesium.....	262		
HALL, W. T. Determination of antimony in roasted stibnite.....	164		
Hance, James H. Segregation in gold bullion.....	336		
Hansen, C. A. Electrolytic zinc at Bully Hill.....	120		
Haylett, Robert E. Nomographic charts for conveyor belt calculations.....	8		
Heinke, W. Paper thread and cloth.....	284		
Hendrick, Elwood. So much fire and so little light	409		
—The chemist on the board.....	238		
Hering, Carl. Perfect heat insulation.....	298		
Herring, W. E. Cheap power from central stations for electrochemical work. Possibilities of Pacific Northwest.....	408		
Hersam, Ernest A. Flotation and cyanidation.....	675		
Herty, Charles H. Turpentine industry in the Southern States.....	427		
Herz, Nathaniel. Probability and chance in screening	297		
Hesse, Bernhard C. Chemistry and daily papers	619		
Hilpert, S. Solubility of naphthalene in ammonia.....	709		
Hoffman, E. J. Nitration of toluene.....	467		
Hofman, H. O. Behavior of stibnite in oxidizing roasts.....	163		
Hooker, A. H. Chemical industries.....	511		
—New war products	261		
—Niagara Falls a national defense necessity	241		
Hooker, E. H. University and industry.....	414		
Howard, Henry. Necessity for an American dyestuff industry.....	180		
Hubert, H. Belgian chemical industries..	376		
INGALLS, W. R. Electrolytic zinc.....	264		
Ionides, S. A. Hydrometallurgy of lead	176		
JOHNSON, J. E., JR. Available hearth heat of the blast furnace.....	464		
—Burdening the blast furnace.....	443		
—Calculation of the burden of the blast furnace.....	520		
—Distribution of the charge column and of the ascending gas column	642		
—Mechanical principles of the blast furnace	387		
—Operation of the blast furnace, 210, 266, Raw materials of the blast furnace.....	363		
Johnson, Woolsey McA. Lungwitz zinc-smelting process	318		
—Proposed quick analytical method for determining the zinc in retort residues or electric zinc furnace slags	105		
Johnston, James. Cyanidation of flotation products	395		
Jordan, H. W. Development of coal-tar products in U. S.	144		
Jorissen, W. P., and J. A. Vollgraf. Transmutation of chemical elements	709		
KERR, E. W. Capacity and economy of multiple evaporators	603		
King, Andrew H. Chemical analysis of rubber goods	581		
—Reclaiming of rubber waste	309		
—Rubber industry	71		
Koepping, Emil D. Electrolytic determination of copper in copper-manganese.....	441		
Kressmann, F. W. Wood flour.....	372		
Kuzell, C. R. Grades of coal permissible for reverberatory smelting	338		
ADON, AARON A. Testing rubber insulation	560		
Laist, Frederick, and A. E. Wiggin. Flotation at Anaconda.....	328		
GLAZE, H. L. Potash from kelp in Southern California.....	355		
Gosrow, R. C. Coke as a reducing agent in electric furnaces.....	691		
Greenleaf, A. R. Experiments on the electrolytic production of hydroquinone.....	560		
Grossmann, J. Utilization of nitre cake.....	453		
Grosvenor, W. H. Magnesium.....	262		
HALL, W. T. Determination of antimony in roasted stibnite.....	164		
Hance, James H. Segregation in gold bullion.....	336		
Hansen, C. A. Electrolytic zinc at Bully Hill.....	120		
Haylett, Robert E. Nomographic charts for conveyor belt calculations.....	8		
Heinke, W. Paper thread and cloth.....	284		
Hendrick, Elwood. So much fire and so little light	409		
—The chemist on the board.....	238		
Hering, Carl. Perfect heat insulation.....	298		
Herring, W. E. Cheap power from central stations for electrochemical work. Possibilities of Pacific Northwest.....	408		
Hersam, Ernest A. Flotation and cyanidation.....	675		
Herty, Charles H. Turpentine industry in the Southern States.....	427		
Herz, Nathaniel. Probability and chance in screening	297		
Hesse, Bernhard C. Chemistry and daily papers	619		
Hilpert, S. Solubility of naphthalene in ammonia.....	709		
Hoffman, E. J. Nitration of toluene.....	467		
Hofman, H. O. Behavior of stibnite in oxidizing roasts.....	163		
Hooker, A. H. Chemical industries.....	511		
—New war products	261		
—Niagara Falls a national defense necessity	241		
Hooker, E. H. University and industry.....	414		
Howard, Henry. Necessity for an American dyestuff industry.....	180		
Hubert, H. Belgian chemical industries..	376		
INGALLS, W. R. Electrolytic zinc.....	264		
Ionides, S. A. Hydrometallurgy of lead	176		
JOHNSON, J. E., JR. Available hearth heat of the blast furnace.....	464		
—Burdening the blast furnace.....	443		
—Calculation of the burden of the blast furnace.....	520		
—Distribution of the charge column and of the ascending gas column	642		
—Mechanical principles of the blast furnace	387		
—Operation of the blast furnace, 210, 266, Raw materials of the blast furnace.....	363		
Johnson, Woolsey McA. Lungwitz zinc-smelting process	318		
—Proposed quick analytical method for determining the zinc in retort residues or electric zinc furnace slags	105		
Johnston, James. Cyanidation of flotation products	395		
Jordan, H. W. Development of coal-tar products in U. S.	144		
Jorissen, W. P., and J. A. Vollgraf. Transmutation of chemical elements	709		
KERR, E. W. Capacity and economy of multiple evaporators	603		
King, Andrew H. Chemical analysis of rubber goods	581		
—Reclaiming of rubber waste	309		
—Rubber industry	71		
Koepping, Emil D. Electrolytic determination of copper in copper-manganese.....	441		
Kressmann, F. W. Wood flour.....	372		
Kuzell, C. R. Grades of coal permissible for reverberatory smelting	338		
ADON, AARON A. Testing rubber insulation	560		
Laist, Frederick, and A. E. Wiggin. Flotation at Anaconda.....	328		
GLAZE, H. L. Potash from kelp in Southern California.....	355		
Gosrow, R. C. Coke as a reducing agent in electric furnaces.....	691		
Greenleaf, A. R. Experiments on the electrolytic production of hydroquinone.....	560		
Grossmann, J. Utilization of nitre cake.....	453		
Grosvenor, W. H. Magnesium.....	262		
HALL, W. T. Determination of antimony in roasted stibnite.....	164		
Hance, James H. Segregation in gold bullion.....	336		
Hansen, C. A. Electrolytic zinc at Bully Hill.....	120		
Haylett, Robert E. Nomographic charts for conveyor belt calculations.....	8		
Heinke, W. Paper thread and cloth.....	284		
Hendrick, Elwood. So much fire and so little light	409		
—The chemist on the board.....	238		
Hering, Carl. Perfect heat insulation.....	298		
Herring, W. E. Cheap power from central stations for electrochemical work. Possibilities of Pacific Northwest.....	408		
Hersam, Ernest A. Flotation and cyanidation.....	675		
Herty, Charles H. Turpentine industry in the Southern States.....	427		
Herz, Nathaniel. Probability and chance in screening	297		
Hesse, Bernhard C. Chemistry and daily papers	619		
Hilpert, S. Solubility of naphthalene in ammonia.....	709		
Hoffman, E. J. Nitration of toluene.....	467		
Hofman, H. O. Behavior of stibnite in oxidizing roasts.....	163		
Hooker, A. H. Chemical industries.....	511		
—New war products	261		
—Niagara Falls a national defense necessity	241		
Hooker, E. H. University and industry.....	414		
Howard, Henry. Necessity for an American dyestuff industry.....	180		
Hubert, H. Belgian chemical industries..	376		
INGALLS, W. R. Electrolytic zinc.....	264		
Ionides, S. A. Hydrometallurgy of lead	176		
JOHNSON, J. E., JR. Available hearth heat of the blast furnace.....	464		
—Burdening the blast furnace.....	443		
—Calculation of the burden of the blast furnace.....	520		
—Distribution of the charge column and of the ascending gas column	642		
—Mechanical principles of the blast furnace	387		
—Operation of the blast furnace, 210, 266, Raw materials of the blast furnace.....	363		
Johnson, Woolsey McA. Lungwitz zinc-smelting process	318		
—Proposed quick analytical method for determining the zinc in retort residues or electric zinc furnace slags	105		
Johnston, James. Cyanidation of flotation products	395		
Jordan, H. W. Development of coal-tar products in U. S.	144		
Jorissen, W. P., and J. A. Vollgraf. Transmutation of chemical elements	709		
KERR, E. W. Capacity and economy of multiple evaporators	603		
King, Andrew H. Chemical analysis of rubber goods	581		
—Reclaiming of rubber waste	309		
—Rubber industry	71		
Koepping, Emil D. Electrolytic determination of copper in copper-manganese.....	441		
Kressmann, F. W. Wood flour.....	372		
Kuzell, C. R. Grades of coal permissible for reverberatory smelting	338		
ADON, AARON A. Testing rubber insulation	560		
Laist, Frederick, and A. E. Wiggin. Flotation at Anaconda.....	328		
GLAZE, H. L. Potash from kelp in Southern California.....	355		
Gosrow, R. C. Coke as a reducing agent in electric furnaces.....	691		
Greenleaf, A. R. Experiments on the electrolytic production of hydroquinone.....	560		
Grossmann, J. Utilization of nitre cake.....	453		
Grosvenor, W. H. Magnesium.....	262		
HALL, W. T. Determination of antimony in roasted stibnite.....	164		
Hance, James H. Segregation in gold bullion.....	336		
Hansen, C. A. Electrolytic zinc at Bully Hill.....	120		
Haylett, Robert E. Nomographic charts for conveyor belt calculations.....	8		
Heinke, W. Paper thread and cloth.....	284		
Hendrick, Elwood. So much fire and so little light	409		
—The chemist on the board.....	238		
Hering, Carl. Perfect heat insulation.....	298		
Herring, W. E. Cheap power from central stations for electrochemical work. Possibilities of Pacific Northwest.....	408		
Hersam, Ernest A. Flotation and cyanidation.....	675		
Herty, Charles H. Turpentine industry in the Southern States.....	427		
Herz, Nathaniel. Probability and chance in screening	297		
Hesse, Bernhard C. Chemistry and daily papers	619		
Hilpert, S. Solubility of naphthalene in ammonia.....	709		
Hoffman, E. J. Nitration of toluene.....	467		
Hofman, H. O. Behavior of stibnite in oxidizing roasts.....	163		
Hooker, A. H. Chemical industries.....	511		
—New war products	261		
—Niagara Falls a national defense necessity	241		
Hooker, E. H. University and industry.....	414		
Howard, Henry. Necessity for an American dyestuff industry.....	180		
Hubert, H. Belgian chemical industries..	376		
INGALLS,			

